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PHYSICAL EDUCATION
IN THE PUBLIC SCHOOLS



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PREFACE

The subject of Physical Education in the Public Schools is one of the greatest interest to every citizen. The paper published in this issue of the Bulletin was read by Miss Rebecca Funk, Director of Physical Education in the Alabama Girls' Technical Institute, at a meeting of the Shelby County Teachers' Institute and is published at the special request of many who heard it read.

Physical Education in the Public Schools

I have frequently observed that when a person has spent a great deal of time and energy in any particular line of study, he is inclined to believe that others are losing a great opportunity unless interested in that same line of study. I am no exception to that rule, and I am here today to endeavor to interest you in one phase of physical education—that in the public school.

Whenever a New Subject knocks at the school room door and demands admission, it is at once confronted by the School Curriculum, well fed, imposing and stern, backed by an anxious-faced Teacher already driven to distraction by the multiplicity of her duties. The two, Teacher and Curriculum, contend together against the new comer until overruled by the powers. Then Curriculum, with great struggle, finds for New Subject a place in his household, and the Teacher, with a sigh, again takes up the task of trying to keep peace in the family and make all the members work together in harmony for the good of the pupils to be instructed. So much is required that she finds it impossible to do any one thing thoroughly. This being the case, each subject should be able to plead its cause and prove its value before being granted a permanent place in the school course.

Montevallo was recently favored by the visit of a circus. After the performance, I was met on the street by an acquaintance, who said: "Oh, you should have been there! They certainly out did you all." The underlying thought which prompted this remark is, unfortunately, rather general, and the idea that Physical Education, in its various forms, is analogous to circus feats is entertained by many people.

Now, while some of the simpler and less exhausting features of the circus program undoubtedly have the same effects as some features of physical training, there are many which are injurious to both the body and the mind of the performer. The object of the circus performance is to amuse the spectators, and to gain this

end no expense of human life is spared. The effect on the performer is not considered. The object of Physical Education, on the other hand, is to develop and increase mental, moral and physical powers. *True* Physical Education takes no account of spectators, but centers its entire attention on the individual in training. Physical Education is no haphazard collection of exercises, doled out to suit the fancy of the instructor, because some happen to be pretty and others amusing, but a science, founded on the principles of mental and moral education, and the laws governing physical growth and development. It is as a science that Physical Education asks to be admitted to the school course.

Before a child begins his school life, practically all of his waking hours are devoted to physical activity. He is an excellent example of perpetual motion. This large amount of exercise is necessary for his growth and development. It is an important factor in the education of the child. By means of it, he is not only preserving his health, and promoting his physical development, but he is also obtaining a certain amount, and a certain kind, of mental and moral development.

While engaged in play, he is learning the moral code of the playground, and this code is an excellent one. He learns on the playground great moral truths which can not be taught him so well in any other way. He finds that laziness will not be tolerated. Only his very best efforts will please those merciless judges, his mates. Should he attempt to conceal lack of effort by dishonesty, he soon discovers that public opinion is against cheating. He learns that what is fair for him is fair also for all the others.

Psychologically, he is acquiring co-ordination of mind and muscle, the ability of the mind to dictate to the muscle. As a rule, at this age his mental ability in this direction corresponds very nearly to his mental ability in other directions. For example, at the age of two years, the child is aimlessly rolling and tossing the ball about. His movements are inaccurate, and he has not the capacity to make them otherwise. At the age of six, however, his power of co-ordination having kept pace with his mental development, he is throwing and catching the ball with some degree of exactness.

Unfortunately, later in life this rule does not always hold true. Too often we see cases in which there is a one-sided develop-

ment. Usually in these cases it is the physical side that is neglected. We can not say that there is an *overtraining* of what we are accustomed to speak of as mental power, but there is an *under-training* of what we usually speak of as physical power, but which is in reality mental also.

When the child enters the school room, a great change in his habits necessarily takes place. He exchanges a life of physical freedom and activity for one of sedentary occupation. As with all sedentary occupations, three general results follow:

1. The nutritive processes of the body, including circulation, digestion, and respiration, are enfeebled through lack of sufficient demand for their work which comes chiefly through muscular activity. A child seated quietly at a desk will use only about one-third of the amount of oxygen consumed by him in an active running game. There being less demand for oxygen during several hours of the day, the lungs are consequently weakened. The same is true in some degree of other nutritive functions.

2. The correct posture of the body is lost in a large percentage of cases. We are all familiar with the drooping head, round shoulders, flat chest, and other deformities of the student. So characteristic are these deformities that they have been classed together and called the "student's stoop". The loss of good carriage comes partly through the weakening of the nutritive functions mentioned, and partly through long detention in the sitting position. Great care should be taken to seat all pupils at desks properly adjusted to the individual. But with the best seating possible, a good position will not be retained longer than a few minutes at a time. Sooner or later relaxation comes, and the pupil droops over his desk. During the growing period, these influences on posture are especially harmful. There is a natural tendency toward weak attitudes which is increased during school life by the sacrifice of vitality to mental development. The bony framework of the body has not become hardened, and incorrect postures tend to change the shape of the bones themselves so that the bad positions literally grow, to a certain extent past redemption, into the structure of the body.

3. The third result is psychological. Educators everywhere are recognizing the fact that weakness and perversion follow the wholesale suppression of the child's instinct for physical activity.

They are realizing more than ever before the close association between thought and movement. All of our ideas are motor in the sense that they tend, unless inhibited, to find motor expression. This drift among educators is shown by the introduction of manual and industrial training into many of our schools. Even in branches more abstract, there is a strong indication of this tendency. With sand or clay, the child pictures his geography lesson; with scissors, paper and paste he works out his geometrical solids. His literary compositions are illustrated by pictures and drawings. Even the system of figures is introduced into the kindergarten by means of strings of colored beads by weaving together strips of colored paper, and by other devices.

The chief objection to be found to these methods is that the activity is limited to the hand, while that of the rest of the body is suppressed. In the school room, the child has but little opportunity for expression of thought through the medium of the body as a whole.

Physical Education, then, has three ends to accomplish—to restore nutritive processes to normal activity; to correct faulty postures; to attain psychological training through use of the whole body. Physical Education is necessarily defensive. The ill effects which civilization in the form of the school room has wrought upon the child must be counteracted. To accomplish these ends, three methods may be used:

First. The combination of physical activity and intellectual pursuits. The change from the active life enjoyed by the child before entering school to the confinement necessary afterwards should be gradual. It is neither necessary nor possible to keep a child absolutely quiet at his desk for long periods at a time, and the wise teacher will not attempt it. During the first year of school life, only about one-third of the time should be spent at the desk. Periods at the desk should be very short, and should be followed by longer periods of physical work. This physical work may very often be combined with some intellectual pursuit. Walks in the interest of Nature Study, and other means, will readily suggest themselves to the resourceful teacher. The child's restlessness is his only method of protest against the conditions of school life. Too often his protest is ignored, and he is admonished to be quiet. When Johnnie is restless, instead of threatening him with punish-

ment, how much better to send him out of doors on an errand. He will come back happy in having done something worth while, and with restlessness relieved. As the child advances through the grades, the period of desk work should be gradually lengthened until each session of school is broken by a few moments of physical activity in addition to the regular recess periods.

The second method is plays and games. Plays and games are very valuable. Joseph Lee, of the Boston school board, in a recent talk said: "Without schools, children will not grow up as we would like to have them. Without play, they will not grow up at all." Active games stimulate the functions of the digestive, circulatory and respiratory organs. They also teach co-ordination of mind and muscle. Elsewhere in this paper I have spoken of the moral effects of games. It is undoubtedly true that the censure of a child's mates has more weight with him than the reproof of the teacher, except, perhaps, when such reproof takes the form of exclusion from the game; still, the moral gain from a directed game should be greater than from an undirected one. The child learns for himself that effort accomplishes ends; that honesty is the best policy; that all men are equal in the eyes of justice. The director of his sports should be able to show him the value of a well-controlled temper, and to help him in acquiring such control. The director should repress the bully, and silence his boasting by showing him some of the many things he still has to learn. He should encourage the weak and timid to engage in sports from which they have been excluded by lack of courage, thus developing that quality in them. He should recognize the individuality of the children, and try to direct each child to games that will call for and develop the qualities in which he is deficient.

Third, Formal Gymnastics. The two methods mentioned above still leave something to be desired. Except in a general way they do little to correct bad postures once they are acquired. For this purpose, gymnastics of a corrective character must be used.

In order to obtain a clear idea of the relation of Physical Education to the daily program of the school room, it will be necessary to say something of the means by which Physical Education is carried on. Mental education is largely dependent upon books, aided by pictures, animate and inanimate objects, mechanical appliances, and supplementary talks. Physical Education likewise

has its own instruments, which may be divided roughly into four large classes:

First—Gymnastics, or work with apparatus; light apparatus such as dumb bells or wands; heavy apparatus like ropes, ladders, bars.

Second—Athletic sports; competitive exercises like jumping, pole-vaulting, foot or bicycle races.

Third—Plays and games; simple ball or bean-bag games, games of tag, folk games.

Fourth—Free-standing exercises; movements requiring no apparatus but the body itself, and including marching and classic dancing.

Each one of these means has its own place in the plan of Physical Education, and can not be replaced by the substitution of any other means. Ideally, each school should have its well-equipped gymnasium, with a trained instructor, and appointed times for the training of the pupils of each grade in the physical exercises for which they are qualified. This ideal condition is far from existing anywhere except in a very few fortunate and favored schools. We learn, in teaching, to get along with few books, with poor appliances, or none at all, with very little, in fact, of what we feel we *must* have; and, in spite of these handicaps, we meet with a reasonable measure of success. So Physical Education can be adapted to circumstances which seem especially unfavorable, and produce desirable results. Much adaptation has been necessary in the case of physical work in the public schools. In order to meet the requirements of the ordinary school room and school playground, apparatus work, which forms such a large, attractive and desirable part of physical training, must be almost wholly abandoned. Physical Education in the graded school consists of free standing exercises and quiet games in the school room, and livelier games on the playground at recess.

Free standing exercises require but little room, and are performed by the pupils standing in the aisles. They consist of introductory exercises, head exercises, balance exercises, trunk exercises, arm exercises, leg exercises and breathing exercises. Each class has its physical, physiological and psychological effects. Introductory exercises are those which are used at the beginning of the lesson to establish a connection between mind and muscles. The

physical effect of these exercises is the establishment of good posture and the preparation for stronger movements. The physiological effect is to draw away from the brain the blood which has been needed for the mental work that has been occupying the child's attention, and to send this blood to the different parts of the body. The psychological principle is that the exercise be one of easy co-ordination.

Balance exercises, also, tend to produce good posture. They require high co-ordination, and comparatively little force. Physically, their effect is to lessen the cerebral blood pressure; physiologically, they ease respiration and remove fatigue; psychologically, they tend to direct attention solely to the exercise to be performed, thus strengthening the power of inhibiting undesirable impulses.

Breathing exercises are accompanied by arm movements or other exercises to assist the act of respiration. Their physical effect is to lessen blood pressure, and increase respiratory power. Their physiological effects are numerous, but the most important, of course, are better oxygenation of tissue, and the elimination of carbon-dioxide. Psychologically they produce, because of hastened circulation, a sense of exhilaration and a consciousness of power.

Each one of the other classes of exercises mentioned might be analyzed in the same way. I have merely selected these as illustrative of the manifold effects and actual complexity of apparently simple exercises. It is because of these effects that it is unwise for any one unacquainted with physiological and anatomical laws to attempt to prescribe exercises. Reliable books on these subjects may be purchased, and are the best guides if personal instruction is impossible to obtain. Daily lessons are arranged according to the physical, physiological and psychological effects of the exercises, thus guarding against mistakes often made by inexperienced instructors.

I have spoken of these free standing exercises as work for the school room. It is scarcely necessary to say that they should be given out of doors whenever possible, as the pure air and the change of surroundings increase the benefits derived from their practice. But bad weather, or poor outdoor facilities often make the use of the school room imperative, and here, small space as they require, the exercises are often interfered with by the smallness of the class room. I have seen class rooms in which a pupil, standing in

an aisle by the wall, has not room enough to straighten his arms sideward without hitting one arm against the wall, unless he happens to be fortunate enough to stand by a window so that his hand may be thrust outside.

Lack of room is not the only hindrance that meets Physical Education in the common school room. It demands better hygienic conditions of all kinds—more even heating, sufficient lighting, proper ventilation, clean floors, adjustable seats and desks. Of how much use to the child is the period of physical exercise which requires him to stand straight for ten minutes during the day, if the light is so poor, or his desk is so low, that he is obliged to stoop over his work for several hours? The ten minutes' training is not absolutely wasted, of course, but its benefits are seriously curtailed. Physical exercise without plenty of fresh air is a waste of body tissue, for tissue that is broken during exercise can not be replaced without oxygen to help make it. Dust rising from ill-kept floors causes colds and sore throats, and how is it possible for a roomful of children to avoid raising dust from a dirty floor?

The question of compulsory education in Alabama is being agitated throughout the State. While realizing the many different aspects of the question, and heartily approving of compulsory education, the side that particularly appeals to me as a physical educator is this—is it *right* to force children to attend school in buildings which are so unhygienic as most of those that are at present used for school houses? With the passage of a compulsory education law, the State takes upon itself new responsibilities. Everything possible must be done to safeguard the health of the children who are thus forced into the school room. Provision must be made for sanitary school buildings, properly lighted and ventilated; for hygienic school furniture that children may be comfortably and rightly seated; for medical inspection that pupils and teachers may be protected from contagious and other diseases; for competent directors of physical training, that the conditions attendant upon school life, even in most favorable circumstances, may be overcome.

